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Controller Design of Multi-Inputs Computer Controlled Systems

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Abstract

The goal of this research is to develop new digital controllers for computer control in multi-inputs systems. The computer control schemes will be employed to implement the proposed controllers. Singular perturbation methods will be used to reduce the order of the model. Hence, the proposed control techniques that can simplify the control scheme will be suitable for large-scale and high-dimension systems with strong potential for practical applications, such as aircraft and communication networks.

Key words: Controller design; Singularly perturbed system; Multi-input

摘要

這個研究的目標是於電腦控制的多重輸入系統中發展新的數位控制器。電腦控制策略將被應用而達成控制器的實用。系統中將應用奇異擾動理論來減低系統的階數。因此，所提出可以簡化系統的控制技術將可適用於大型且高階的系統，並具有實質應用的途徑，如航空器或通訊系統。

關鍵字: 控制器設計;奇異擾動系統;多輸入